Claims

1. A system for facilitating trading two items from the group of items comprising commodities and financial instruments, said system comprising:

    at least two agents that want to trade the items;

    a trading channel between the two agents allowing

    for the execution of trades;

    flow limits on the traded items and on any underlying instruments to be exchanged upon settlement of the traded items; and

    a central computer coupled to the two agents, said computer adapted to convey to each agent current tradable bid and offered prices and sizes subject to the agent's flow limits.

2. The system of claim 1 wherein both agents are coupled to the central computer when they are trading.

3. The system of claim 1 wherein at least one agent is a credit-extending agent.

4. The system of claim 1 wherein there are at least two credit-extending agents having trading channels with a single non-credit-extending agent.

5. The system of claim 1 wherein there are at least two non-credit-extending agents having trading channels with a single credit-extending agent, wherein said credit-extending agent has instructed the central computer that it is

permissible to have two non-credit-extending agents perform trades via said credit-extending agent.

6.   The system of claim 5 wherein the two non-credit-extending agents do not have an available trading channel between them, and the credit-extending agent yields some of its trading channel capacity to the two non-credit-extending agents.

7.   The system of claim 1 wherein there are at least two credit-extending agents having trading channels with a single non-credit-extending agent; and

there are at least two non credit-extending agents having trading channels with the same credit-extending agent, which credit-extending agent has instructed the central computer that it is permissible to have two non-credit-extending agents perform trades via said credit-extending agent.

8.   The system of claim 1 wherein the central computer updates the current tradable information after each trade.

9.   A system for facilitating the trading of items from the group of items comprising commodities and financial instruments, said system comprising:

a plurality of agents that wish to trade the items, wherein each agent is coupled to at least one other agent via a trading channel; and

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a central computer that conveys to each agent

current tradable bid and offered prices and sizes

subject to the agent's trading and flow limits;

wherein

there is at least one non-credit-extending agent

having trading channels with at least two credit-

extending agents; and

there is at least one commonly-coupled credit-

extending agent having trading channels with at

least two non-credit-extending agents, wherein

said commonly-coupled credit-extending agent has

instructed the central computer that it is

permissible to have at least two non-credit-

extending agents perform trades via said commonly-

coupled credit-extending agent.

10.   The system of claim 1 further comprising a second
computer coupled to the central computer, adapted to affix
date and time stamps on trade orders posted by the agents.

11.   The system of claim 1 wherein at least one agent
comprises a computer having a standard application programming
interface (API), wherein the API is coupled to the central
computer and enables the agent to write customized
instructions to facilitate two-way communication between the
agent and the central computer.

12. The system of claim 11 wherein the agent is a credit-extending agent and the API enables the agent to update the agent's backoffice information.

13. The system of claim 11 wherein the API is programmed to make and cancel orders.

14. The system of claim 11 wherein the API receives and reformats the agent's current tradable bid and asked information for any traded items.

15. The system of claim 11 wherein the API sets trading limits.

16. The system of claim 11 wherein the API estimates how much it would cost the agent to liquidate the agent's position in a traded item.

17. The system of claim 11 wherein the API is programmed to estimate the agent's current profit/loss amount for each item being traded.

18. The system of claim 11 wherein the API is programmed to automatically execute trades.

19. A trading system comprising a non-disjointed network of j credit-extending agents and k non-credit-extending agents, where j and k are each positive integers at least equal to two; wherein

> the agents are connected via trading channels; and
>
> the agents are adapted to trade items from the group
>
> > of items comprising commodities and financial
> >
> > instruments; said system further comprising:

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a central computer coupled to the agents, said

computer being adapted to calculate, for each pair

of items being traded, topology-dependent

individual trading limits for each agent.

20. A non-disjointed network comprising:

j credit-extending agents and k non-credit-extending

agents, where j and k are each positive integers

at least equal to two;

a plurality of trading channels coupling the agents

to each other, wherein the trading channels permit

the agents to trade items from the group of items

comprising commodities and financial instruments;

and

a central computer which, for each pair of items

being traded, converts the network into a

virtually cliqued network.

21. The system of claim 19 wherein, after each trade,

the central computer re-computes the trading limits, thereby

changing the topology of the network.

22. The system of claim 21 wherein changing the trading

limits for a given pair of items forces a change in the

trading limits for at least one other pair of items.

23. The system of claim 19 wherein the central computer

presents a standardized application programming interface

enabling any agent to connect thereto.

24.   The system of claim 19 wherein each agent comprises means for displaying:

    said agent's current position in each item traded; and

    said agent's currently available trading limits, for all item pairs, with its immediate neighboring agents.

25.   The system of claim 19 wherein the central computer prepares, for each agent, a custom limit order book taking into account multi-hop trading limits.

26.   The system of claim 19 wherein the central computer removes trading channels in instances where a credit-extending agent has not authorized acting as an intermediary for back-to-back trades.

27.   The system of claim 19 wherein the trading limits are derived from at least one specified input credit limit from the group of specified input credit limits comprising position limits for lot items, position limits for quoted items, volume limits for lot items, volume limits for quoted items, notional position limits, notional volume limits, item pair position limits, and item pair volume limits.

28.   The system of claim 27 wherein the central computer converts the specified input credit limits into trading limits for each pair of items being traded, and places said trading limits into custom limit order books for each agent, said custom limit order books taking into account multi-hop trades.

29. The system of claim 19 wherein the trading limits take into account an input lot item position credit limit specified by a credit-extending agent.

30. The system of claim 19 wherein the trading limits take into account an input quoted item position credit limit specified by a credit-extending agent.

31. The system of claim 19 wherein the trading limits take into account an input volume credit limit for a lot item specified by a credit-extending agent.

32. The system of claim 19 wherein the trading limits take into account an input volume credit limit for a quoted item specified by a credit-extending agent.

33. The system of claim 19 wherein the trading limits take into account an input notional position credit limit specified by a credit-extending agent.

34. The system of claim 19 wherein the trading limits take into account an input notional volume credit limit specified by a credit-extending agent.

35. The system of claim 19 wherein the trading limits take into account an input traded item position credit limit specified by a credit-extending agent.

36. The system of claim 19 wherein the trading limits take into account an input traded item volume credit limit specified by a credit-extending agent.

37. The system of claim 19 wherein, after each trade between a buying agent and a selling agent, the central

computer issues a deal ticket to an auditor, an in flow ticket
to the buying agent, and an out flow ticket to the selling
agent.

      38.   The system of claim 37 wherein:

          the trade is a multi-hop trade;

          there is at least one intermediate agent situated in

             the flow between the buying agent and the selling

             agent;

          the buying agent and the selling agent are unknown

             to each other;

          the deal ticket contains the identity of each

             intermediate agent;

          the in flow ticket contains the identity of just an

             immediate neighboring agent; and

          the out flow ticket contains the identity of just an

             immediate neighboring agent.

      39.   The system of claim 37 wherein each ticket is
digitally signed by the central computer.

      40.   The system of claim 37 wherein each ticket is
encrypted by the central computer.

      41.   The system of claim 40 wherein the in flow ticket is
encrypted to the buying agent and to the auditor, but not to
the central computer.

      42.   The system of claim 40 wherein the out flow ticket
is encrypted to the selling agent and to the auditor, but not
to the central computer.

43. A method for an agent to trade with a counterparty an item from the group of items comprising commodities and financial instruments, said method comprising:

receiving from a central computer a custom limit order book which takes into account multi-hop trading limits with other agents coupled to the central computer; and

communicating an order to the central computer based upon information contained in the custom limit order book.

44. A computer adapted to facilitate trading among a plurality of agents items from the group of items comprising commodities and financial instruments, said computer comprising:

means for converting specified input credit limits into a set of trading limits;

coupled to the converting means, means for postulating the trading limits as a set of multi-hop trading limits; and

coupled to the postulating means, means for communicating the multi-hop trading limits to the agents in the form of a custom limit order book for each agent, taking into account all of the specified input credit limits.

45. The computer of claim 44 wherein the postulating means comprises means for applying a maximum flow algorithm.

46. A computer readable medium comprising computer program instructions for enabling an agent to trade items from the group of items comprising commodities and financial instruments, said computer program instructions enabling said agent to perform the steps of:

receiving from a central computer a custom limit order book which takes into account multi-hop trading limits with other agents coupled to the central computer; and

communicating an order to the central computer based upon information contained in the custom limit order book.

47. A method by which a computer facilitates trading, among a plurality of agents, items from the group of items comprising commodities and financial instruments, said computer performing the steps of:

converting specified input credit limits into a set of computerized trading limits;

graphing a network comprising nodes representing agents, said nodes being connected by paths representing the trading limits;

deriving from the graph a set of multi-hop trading limits between each pair of agents; and

communicating the multi-hop trading limits to the agents in the form of a custom limit order book

for each agent, said custom limit order book

taking into account the topology of the network.

48. The method of claim 47 wherein the deriving step comprises applying a maximum flow algorithm.

49. A first agent computer adapted to trade with other agent computers items from the group of items comprising commodities and financial instruments, said first agent computer comprising:

a display; and

displayed on the display, a custom limit order book

showing, for each pair of items to be traded,

multi-hop trading limits between said first agent

computer and each of said other agent computers.

50. The first agent computer of claim 49, further comprising an application programming interface.

51. The first agent computer of claim 49 wherein the multi-hop trading limits take into account specified input credit limits.

52. The first agent computer of claim 51 wherein the specified input credit limits comprise at least one limit from the group of limits comprising position limits for lot items, position limits for quoted items, volume limits for lot items, volume limits for quoted items, notional position limits, notional volume limits, traded item position limits, and traded item volume limits.

53. A method by which a first agent trades with other agents items from the group of items comprising commodities and financial instruments, said method comprising said first agent performing the steps of:

> viewing a custom limit order book showing, for each pair of items to be traded, multi-hop trading limits between said first agent and each of said other agents; and

> executing a maneuver from the set of maneuvers comprising placing an order to be considered by said other agents and taking an order placed by one of said other agents.

54. The method of claim 53 wherein the step of executing a maneuver comprises taking less than an entire order.

55. A computer readable medium comprising computer program instructions for enabling a central computer to facilitate trading, among a plurality of agents, items from the group of items comprising commodities and financial instruments, said computer program instructions enabling said central computer to perform the steps of:

> converting specified input credit limits into a set of computerized trading limits;

> graphing a network comprising nodes representing agents, said nodes being connected by paths representing the trading limits;

deriving from the graph a set of multi-hop trading

limits between each pair of agents; and

communicating the multi-hop trading limits to the

agents in the form of a custom limit order book

for each agent, said custom limit order book

taking into account the topology of the network.